Informal Data Collection for Young Children’s Behaviors
From Good Intentions to Effective Implementation

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An Iterative Process for Increasing Social Emotional Competence...

1. Systematic Monitoring
2. Identify target social emotional behavior with parents
3. Define target social emotional behavior with parents
4. Establish a social emotional behavior goal
5. Implement an appropriate social emotional intervention
6. Monitor social emotional behavior

The process is iterative and cyclic, allowing for continuous improvement and adaptation.
Observation

Systematic monitoring is a means of discerning what behaviors are performed by the child, under what conditions those behaviors appear, and which stimuli are/might be related to those behaviors

(McAfee & Leong, 2011; McEvoy, Neilson, & Reichle, 2004).
What behaviors or skills does the child do

- independently?
- with adaptation?
- with assistance?

What behaviors does the child need to learn?

What intervention strategies are likely to be successful with the child?

What are the child’s abilities, likes, dislikes, and behaviors under various circumstances?

How does the child interact with peers and adults in different settings?
Key Components for Systematic Monitoring

1. Monitoring should inform instructional decisions (Krasch & Carter, 2009).

2. Monitoring data should be regularly and consistently collected (Bredekamp & Copple, 1997; Wolery, 2004).

3. Monitoring children’s interactions with peers can occur in natural settings.
4. Monitoring requires recognition that families may have different perspectives about pro-social and challenging behaviors.

5. Monitoring includes families and educators collaboratively identifying and defining target behaviors to include:

- context in which the undesired behavior may occur
- possible triggers for the behavior
- what the target behavior looks/sounds like
- what the target behavior does not look/sound like

(McEvoy, Neilson, & Reichle, 2004).
Child Behavior

Numerical

Discrete or Continuous

Moderate frequency
Observation Method: Observe at end of interval for behavior occurring at that moment

Hard to Notice inconsistent
Observation Method: Observe the entire interval for behavior occurring at all

Difficult to Count ongoing
Observation Method: Observe the entire interval for behavior occurring the entire interval across the interval

Outcome:
- Momentary
- Partial Interval
- Whole Interval
Momentary Sampling

Document if the behavior occurs at a specific time.

Momentary time sampling is best used with behaviors
  • occurring with moderate frequency
  • longer in duration (Wolery, 2004)

Talking out of turn

Initiating play with peer

Engagement
# Momentary Sampling

**Before**
- Define Behavior
- Decide Routine to Observe Behavior
- Decide Time Period
- Divide Time into Equal Intervals
- Gather Data Sheet & Timer

**During**
- Set Timer
- Look for behavior at the end of the interval
- Place a plus ("+") in the interval box if the behavior is observed
- Place a minus ("-"") in the interval box if the behavior is not observed

**After**
- When all time intervals passed, total the number of pluses
- Calculate the percentage of intervals in which the behavior occurred at the end of the interval
- Analyze the data and discuss results with parents
- Make intervention decisions
### Table 1

**Example Momentary Time Sampling Data Sheet: Engagement**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Definition</th>
<th>Example:</th>
<th>Non-example:</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/25/13</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>+</td>
</tr>
</tbody>
</table>

**Percentage of Intervals in which Behavior Occurred**

- **50%**

**Note:** Total observation time is one minute divided into six second intervals.
Partial Interval Sampling

Observe the focal child’s behavior for the entire interval. If the behavior occurs at all (e.g., one or two times) during the interval document that the behavior has occurred.

Partial interval time sampling is best used with behaviors which,

• occur quickly
• are hard to notice
• occur inconsistently (Wolery, 2004)

Making negative comments

Taking an object from a peer

Out of seat
## Partial Interval Sampling

<table>
<thead>
<tr>
<th>Before</th>
<th>During</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Define Behavior</td>
<td>• Set Timer</td>
<td>• When all time intervals passed, total the number of pluses</td>
</tr>
<tr>
<td>• Decide Routine to Observe Behavior</td>
<td>• Observe for the entire interval</td>
<td>• Calculate the percentage of intervals in which the behavior occurred at all during the interval</td>
</tr>
<tr>
<td>• Decide Time Period</td>
<td>• Place a plus (&quot;+&quot;) in the interval box if the behavior occurred at all (e.g., once, twice) during the interval</td>
<td>• Analyze the data and discuss results with parents</td>
</tr>
<tr>
<td>• Divide Time into Equal Intervals</td>
<td>• Place a minus (&quot;-&quot;) in the interval box if the behavior is not observed</td>
<td>• Make intervention decisions</td>
</tr>
<tr>
<td>• Gather Data Sheet &amp; Timer</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Partial Interval Sampling: During

**Table 2**

*Example Partial Interval Sampling Data Sheet:*

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Definition</th>
<th>Example:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-example:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Percentage of Intervals in which Behavior Occurred</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/25/13</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>60%</td>
</tr>
</tbody>
</table>

Note: Total observation time is five minutes divided into 30 second intervals.
Whole Interval Sampling

Observe the focal child’s behavior for the entire interval. If the behavior occurs across the entire interval, document that the behavior has occurred.

Whole interval time sampling is best used with behaviors which are
• hard to count
• ongoing (Wolery, 2004)
## Whole Interval Sampling

<table>
<thead>
<tr>
<th>Before</th>
<th>During</th>
<th>After</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Define Behavior</td>
<td>• Set Timer</td>
<td>• When all time intervals passed, total the number of pluses</td>
</tr>
<tr>
<td>• Decide Routine to Observe Behavior</td>
<td>• Observe for the entire interval</td>
<td>• Calculate the percentage of intervals in which the behavior occurred across the entire interval</td>
</tr>
<tr>
<td>• Decide Time Period</td>
<td>• Place a plus (“+”) in the interval box if the behavior occurred across the entire interval</td>
<td>• Analyze the data and discuss results with parents</td>
</tr>
<tr>
<td>• Divide Time into Equal Intervals</td>
<td>• Place a minus (“-“) in the interval box if the behavior is not observed</td>
<td>• Make intervention decisions</td>
</tr>
<tr>
<td>• Gather Data Sheet &amp; Timer</td>
<td>•</td>
<td></td>
</tr>
</tbody>
</table>
### Whole Interval Sampling: During

**Example Whole Interval Sampling Data Sheet:**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
<td></td>
</tr>
</tbody>
</table>

| Non-example: |          |

<table>
<thead>
<tr>
<th>Date</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
<th>6</th>
<th>7</th>
<th>8</th>
<th>9</th>
<th>10</th>
<th>Percentage of Intervals in which Behavior Occurred</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/25/13</td>
<td>+</td>
<td>-</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>+</td>
<td>-</td>
<td>-</td>
<td>+</td>
<td>50%</td>
</tr>
</tbody>
</table>

Note: Total observation time is ten minutes divided into one minute intervals.
**CHILD BEHAVIOR**

- **Temporal**
- **Discrete**

**Clear Beginning & End**
- Longer than a few seconds

- Record time behavior starts and time behavior stops
- Record time prompt is given and time behavior starts

**Duration**

**Latency**
**Duration**

Document the length of time the child engages in a particular behavior.

Duration is best used with behaviors
- with a clear beginning and end
- which last longer than a few seconds (Wolery, 2004)

**Crying**

**Establishing Joint Attention**
**Before**
- Define Behavior
- Decide Routine to Observe Behavior
- Decide Time Period
- Gather Data Sheet & Stopwatch

**During**
- Record the date
- Record time behavior begins
- Record time behavior ends
- Calculate the behavior’s duration for each occurrence

**After**
- Calculate the total time the behavior occurred for the observation period
- Divide the total minutes by the number of behavior occurrences to find the average minutes across all observations
- Analyze the data and discuss results with parents
- Make intervention decisions
Table 4
Example Average Duration Data Sheet:

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Definition</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example:</td>
<td></td>
</tr>
<tr>
<td>Non-</td>
<td>Example:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Time Behavior Began</th>
<th>Time Behavior Stopped</th>
<th>Length of Time Behavior Lasted</th>
<th>Total</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/25/13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/25/13</td>
<td></td>
<td></td>
<td>34.5s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/25/13</td>
<td></td>
<td></td>
<td>45.2s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/25/13</td>
<td></td>
<td></td>
<td>22s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/25/13</td>
<td></td>
<td></td>
<td>57s</td>
<td>158.7s</td>
<td>39.68s</td>
</tr>
</tbody>
</table>

Note: The average length of tantrum across all episodes.
### Table 4

**Example Average Duration Data Sheet:**

<table>
<thead>
<tr>
<th>Behavior</th>
<th>Definition</th>
<th>Example:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Non-Example:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Time Behavior Began</th>
<th>Time Behavior Stopped</th>
<th>Length of Time Behavior Lasted</th>
<th>Total</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/28/13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/28/13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/28/13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/28/13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/28/13</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The average length of tantrum across all episodes.
Observe for the focal child’s behavior record the time prompt was given to when the behavior starts.

Whole interval time sampling is best used with behaviors which are

- hard to count
- ongoing (Wolery, 2004)
Before
- Define Behavior
- Decide Routine to Observe Behavior
- Decide Time Period
- Gather Data Sheet & Stopwatch

During
- Record the date
- Record time prompt was given
- Record time behavior starts
- Calculate the duration between prompt and behavior starting for each occurrence

After
- Calculate the total time between the prompt and behavior starting for the observation period
- Divide the total number of minutes by the number of prompted behaviors to find the average minutes across all observations
- Analyze the data and discuss results with parents
- Make intervention decisions
# Latency: During

Table 5

*Example Average Latency Data Sheet:*

<table>
<thead>
<tr>
<th>Behavior Definition</th>
<th>Example:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Non-Example:</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Time Prompt was Given</th>
<th>Time Behavior Started</th>
<th>Length of Time Between Prompt and Behavior Starting</th>
<th>Total</th>
<th>Average</th>
</tr>
</thead>
<tbody>
<tr>
<td>2/28/13</td>
<td></td>
<td></td>
<td>77s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/28/13</td>
<td></td>
<td></td>
<td>86s</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2/28/13</td>
<td></td>
<td></td>
<td>56s</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Note: The average time between a prompt and behavior beginning across all observations for the time period.
In Summary...

- Monitoring children’s behaviors is best during children’s naturally occurring routines
- Appropriate identification of monitoring methods leads to easier and more meaningful data collection for children’s behaviors
- Monitoring data results in most effective intervention to address children’s needs
With a partner, plan to monitor a child’s behavior by completing the following components:

- Determine focal behavior and its definition
- Determine type of monitoring approach appropriate for the focal behavior and length/intervals
- Determine routine in which data will be collected
- Determine intervention to address focal behavior
Questions, Comments, or Suggestions

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I’m filling out a reader survey for CHEWING MAGAZINE

See, They asked how much money I spend on gum each week. So, I wrote ‘$500.’ For my age, I put ‘43’. Then they asked what my favorite flavor is, I wrote ‘garlic/curry.’

This magazine should have some AMUSING ads soon.

I LOVE messing with DATA
References


